

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
30 October 2003 (30.10.2003)

PCT

(10) International Publication Number  
**WO 03/089064 A1**

(51) International Patent Classification<sup>7</sup>: **A62C 5/02**

(81) Designated States (*national*): AU, CA, CN, JP, US.

(21) International Application Number: PCT/US03/11584

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(22) International Filing Date: 16 April 2003 (16.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/373,075 16 April 2002 (16.04.2002) US

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*
- *of inventorship (Rule 4.17(iv)) for US only*

(71) Applicants and

(72) Inventors: **MUELLER, John** [US/US]; 4066 Menomonee River Parkway, Wauwatosa, WI 53222 (US). **MUELLER, Patty** [US/US]; 4066 Menomonee River Parkway, Wauwatosa, WI 53222 (US).

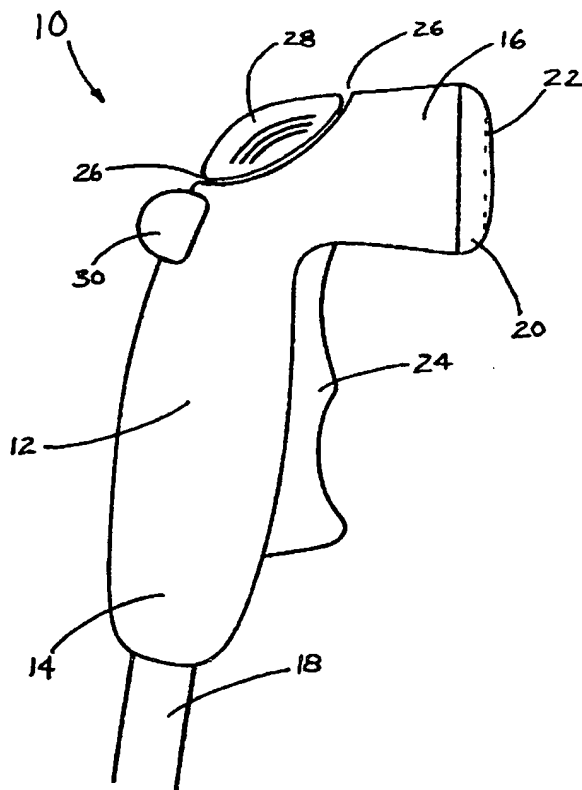
**Published:**

- *with international search report*

(74) Agent: **HEINO, Joseph, S.**; Davis & Kuelthau, s.c., 111 E. Kilbourn Ave., Ste.1400, Milwaukee, WI 53202-6613 (US).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: CLEANING SPRAY NOZZLE



(57) Abstract: A spray nozzle (10) includes a nozzle body (12) and a chemical-containing cartridge (28) releasably attached to the nozzle body (12). The cartridge (28) can be adapted to be releasably secured to the nozzle body (12) at the outlet end (16), the inlet end (14), or on the nozzle body (12) itself, in order to dispense a chemical contained within the cartridge into a water stream flowing through the nozzle. The nozzle (10) also includes a dispensing mechanism utilized to control the amount of the chemical dispensed into the water stream. The dispensing mechanism can be disposed on the nozzle body (12), or directly on the cartridge (28) itself.

WO 03/089064 A1